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PTO/SB/05 (12/97)

Approved for use through 9/30/00, OMB 0651-0032

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)		Atty. Docket No.	QCS-003 (6695/4)
		First Named Inventor:	Emil Kamieniecki
COMPLETE IF KNOWN			
		Application Number.:	Not yet assigned
		Filing Date	Herewith
		Group Art Unit	
		Examiner Name	

(Original, Design, National Stage of PCT, Supplemental, Divisional, Continuation or CIP)

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**APPARATUS AND METHOD FOR RAPID PHOTO-THERMAL SURFACE
TREATMENT**

the specification of which (check one):

- is attached hereto.
- was filed on _____ as Application Serial No. 0_____ / _____ or
- was described and claimed in PCT International Application No. _____ filed on _____ and as amended under PCT Article 19 on _____ (if any).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment specifically referred to above.

I acknowledge the continuing duty to disclose information which is material to the examination of this application in accordance with 37 C.F.R. §1.56.

PRIORITY CLAIM

- A. I hereby claim benefit under 35 U.S.C. 119(e) of United States Provisional Application No. _____, filed on _____.
- B. I hereby claim foreign priority benefits under 35 U.S.C. §119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application(s) designating at least one country other than the United States of America listed below and I have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) to which priority is claimed.
 - no such applications have been filed.
 - such applications have been filed as follows:

**EARLIEST FOREIGN APPLICATION(S), IF ANY FILED WITHIN
12 MONTHS (6 MONTHS FOR DESIGN) PRIOR TO
THIS U.S. APPLICATION**

Country	Application Number	Date of Filing (mo., day, year)	Priority Claimed Under 35 USC 119
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>

C. I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s) or §365(c) of any PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. §1.56 which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application.

PRIOR U.S. NON-PROVISIONAL APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 USC §120:

U.S. APPLICATIONS	U.S. FILING DATE	STATUS
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, aband.)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, aband.)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, aband.)

POWER OF ATTORNEY

As a named inventor, I hereby appoint the following registered practitioners to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith:

Steven M. Bauer	Reg. No. 31,481
Paula A. Campbell	Reg. No. 32,503
Joseph A. Capraro, Jr.	Reg. No. 36,471
John J. Cotter	Reg. No. 38,116
Gillian M. Fenton	Reg. No. 36,508
Duncan A. Greenhalgh	Reg. No. 38,678
William G. Guerin	Reg. No. 41,047
Ira Heffan	Reg. No. 41,059
Douglas J. Kline	Reg. No. 35,574
John D. Lanza	Reg. No. 40,060
Timothy P. Linkkila	Reg. No. 40,702
Robin R. Longo	Reg. No. 40,071
Thomas C. Meyers	Reg. No. 36,989
Edmund R. Pitcher	Reg. No. 27,829
Kurt Rauschenbach	Reg. No. 40,137
Michelle B. Rosenberg	Reg. No. 40,792
J. Scott Southworth	Reg. No. 39,382
Christopher W. Stamos	Reg. No. 35,370
Robert J. Tosti	Reg. No. 35,393
Thomas A. Turano	Reg. No. 35,722
Michael J. Twomey	Reg. No. 38,349
Christine C. Vito	Reg. No. 39,061
Patrick R.H. Waller	Reg. No. 41,418

Direct correspondence to:

Patent Administrator
Testa, Hurwitz & Thibeault, LLP
High Street Tower
125 High Street
Boston, MA 02110

Direct telephone calls to:

Thomas A. Turano (617) 248-7738

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

To the beset of my/our knowledge, information and belief, formed after an inquiry reasonable under the circumstances, this paper is not being presented for any in proper purpose. Further, the contentions made herein are warranted by law and/or are supported by facts available for consideration as evidence.

SIGNATURE(S)

Emil Kamieniecki, Ph.D.

Full name of inventor

Emil Kamieniecki

Inventor's signature

U.S.A.

Citizenship

January 6, 1998

Date

18 Stratham Road, Lexington, Massachusetts 02173

Residence

same as above

Post Office Address

426JIS6695/4.456408-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): Kamieniecki

SERIAL NO.: Not Yet Assigned

GROUP NO.: Not Yet Assigned

FILED: October 10, 2001

EXAMINER: Not Yet Assigned

TITLE: APPARATUS AND METHOD FOR RAPID PHOTO-THERMAL SURFACE TREATMENT

Box Patent Application
 Assistant Commissioner for Patents
 Washington, D.C. 20231

ASSOCIATE POWER OF ATTORNEY

Sir:

An associate power of attorney is hereby granted to:

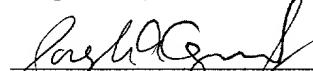
Michael J. Bastian	47,411	Kurt W. Lockwood	40,704
Elias C. Behrakis	47,416	Thomas C. Meyers	36,989
John V. Bianco	36,748	Joseph B. Milstein	42,897
Isabelle A.S. Blundell	43,321	David G. Miranda	42,898
Maureen A. Bresnahan	44,559	Ronda P. Moore	44,244
Michael H. Brodowski	41,640	Indranil Mukerji	46,944
Jennifer A. Camacho	43,526	Michael A. Rodriguez	41,274
Brian A. Fairchild	48,645	Jamie H. Rose	45,054
John V. Forcier	42,545	R. Stephen Rosenholm	45,283
Steven J. Frank	33,497	Christopher W. Stamos	35,370
Kia L. Freeman	47,577	Diana M. Steel	43,153
Brian M. Gaff	44,691	Joel Stettenheim	48,797
William G. Guerin	41,047	Joseph P. Sullivan	45,349
Jonathan A. Harris	44,744	Patrick R.H. Waller	41,418
Ira V. Heffan	41,059	Daniel A. Wilson	45,508
Danielle L. Herritt	43,670	Gerald E. Worth	45,238
John D. Lanza	40,060	Yin P. Zhang	44,372

in connection with the above-identified patent application.

Please continue to direct all correspondence relating to the above application to:

Patent Administrator
 Testa, Hurwitz & Thibeault, LLP
 High Street Tower
 125 High Street
 Boston, MA 02110

Respectfully submitted,



 Joseph A. Capraro, Jr.

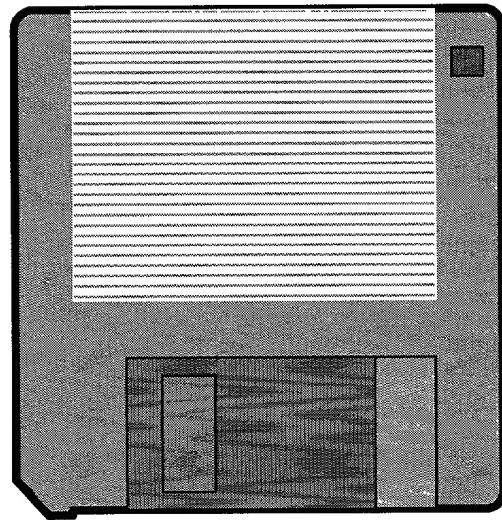
Attorney for Applicant(s)
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 Reg. No. 36,471

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PATENT
Attorney Docket No. QCS-003DV

JC979 U.S. PRO
09/974024
10/10/01



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): Kamieniecki
 SERIAL NO.: Not yet assigned GROUP NO.: Not yet assigned
 FILING DATE: October 10, 2001 EXAMINER: Not yet assigned
 TITLE: APPARATUS AND METHOD FOR REAPID PHOTO-THERMAL
 SURFACE TREATMENT

INFORMATION DISCLOSURE STATEMENT

Box Patent Application
 Assistant Commissioner for Patents
 Washington, D.C. 20231

Sir:

In accordance with the provisions of 37 C.F.R. §1.97, Applicants hereby make of record the references listed on the accompanying Form PTO-1449 for consideration by the Examiner in connection with the examination of the above-identified patent application. Per 37 C.F.R. §1.98 (d), copies of references are not enclosed for references previously submitted to the Office, or cited by the Office, in prior application 09/003,670, which was filed on January 7, 1998, and is relied on for an earlier filing date under 35 U.S.C. 120. Applicant will supply a copy of references previously submitted to the Office, or cited by the Office, in prior application 09/003,670, if requested to do so.

REMARKS

In accordance with the provisions of 37 C.F.R. §1.97, this statement is being filed (CHECK ONE):

- (1) within three (3) months of the **Filing Date** or before the mailing date of the **First Office Action** on the merits; or
- (2) after the period defined in (1) but before the mailing date of a **Final Rejection** or **Notice of Allowance**, and
 - the requisite Statement is below, **OR**
 - the requisite fee under Rule 1.17(p), namely **\$240.00**, is included herein, or

- (3) after the mailing date of a **Final Rejection or Notice of Allowance** but before the payment of the **Issue Fee, AND**
- Applicant hereby Petitions the Commissioner to accept and consider the attached Information Disclosure Statement, **AND**
- the requisite Statement is below, **AND**
- the requisite petition fee due under Rule 1.17(i)(I), namely **\$130.00** is included herein.

It is respectfully requested that each of the references shown on the attached Form PTO-1449 be made of record in this application.

STATEMENT

As required under §1.97(e), Applicants, through the undersigned, hereby state either that [check the appropriate space]:

- 1. [E]ach item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application **not more than** three months prior to the filing date of the Information Disclosure Statement; or
- 2. [N]o item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any** individual designated in §1.56(c) **more than** three months prior to the filing of the Information Disclosure Statement.

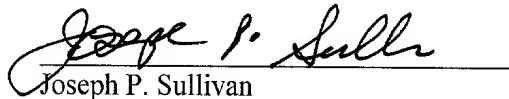
FEE AUTHORIZATION

Should any fee associated with the submission of this paper not be attached hereto as a check, the Commissioner is authorized to charge the missing fee to our Deposit Account, No. 20-0531. Any overpayments should be credited to said Deposit Account.

Respectfully submitted,

Date: October 10, 2001
Reg. No. 45,349

Tel. No.: (617) 248-7677
Fax No.: (617) 248-7100


Joseph P. Sullivan
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MASSACHUSETTS
DEPARTMENT OF
ENVIRONMENT
Division of
Environmental
Management

JSULLIVA\6695\4.2188608_1

FORM PTO - 1449 INFORMATION DISCLOSURE STATEMENT		ATTY DOCKET NO.: QCS-003DV APPLICANT: Kamieniecki SERIAL NO.: Not yet assigned FILING DATE: October 10, 2001 GROUP: Not yet assigned
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JC979 U.S. PTO
09/974024

10/10/01

U.S. PATENT DOCUMENTS

EXAM. INIT.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	4,544,887	10/01/85	Kamieniecki	324	158	10/21/82
	4,558,660	12/17/85	Nishizawa et al.	118	725	3/16/83
	4,581,578	04/08/86	Honma et al.	324	158	01/31/84
	4,599,558	07/08/86	Castellano, Jr. et al.	324	158	12/14/83
	4,871,417	10/3/89	Nishizawa et al.	156	640	6/30/87
	5,306,671	04/26/94	Ogawa et al.			
	5,453,702	09/26/95	Goldfarb	324	765	11/29/93
	5,470,799	11/28/95	Itoh et al.	437	238	4/24/89
	5,471,293	11/28/95	Lowell et al.	356	30	02/02/94
	5,663,657	09/02/97	Lagowski et al.	324	766	09/26/94
	5,661,408	08/26/97	Kamieniecki et al.	324	765	03/01/95
	5,716,495	2/10/98	Butterbaugh et al.	156	643.1	3/25/96

FOREIGN PATENT DOCUMENTS

EXAM. INIT.	DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG Y/N
	41 22 587	01/23/93	DE					N
	WO 94/23854	10/27/94	PCT					Y

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)
	Akazawa et al., "Photostimulated Evaporation of SiO ₂ and Si ₃ N ₄ Films by Synchrotron Radiation and its Application for Low-Temperature Cleaning of Si Surfaces", <i>Journal of Vacuum Science and Technology</i> , Vol. 9, No. 5, September 1, 1991, pp. 2653-2661

EXAMINER	DATE CONSIDERED
jsullivan6695\4.2188621_1	

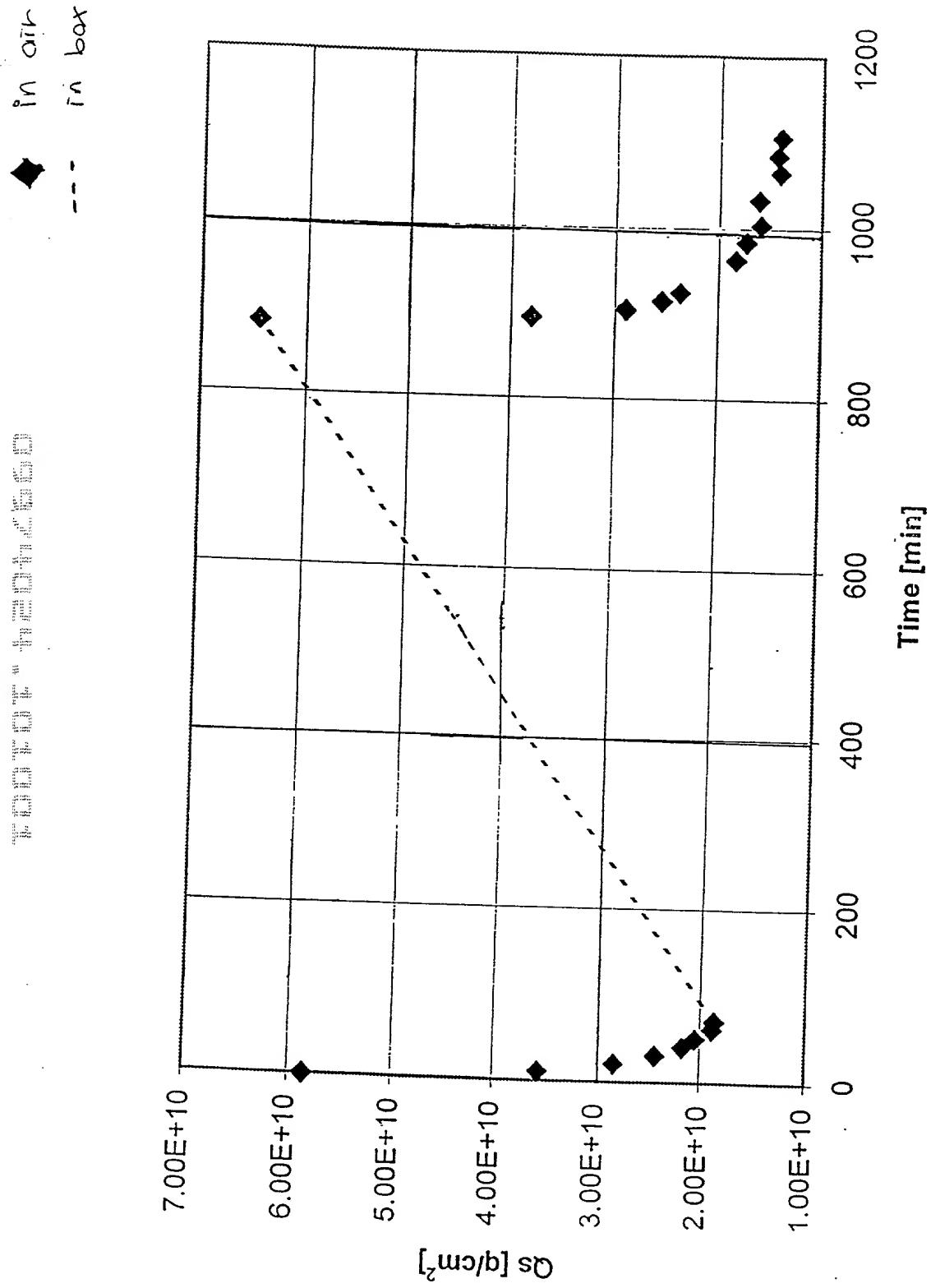


Figure 1

JC979 U.S. PTO
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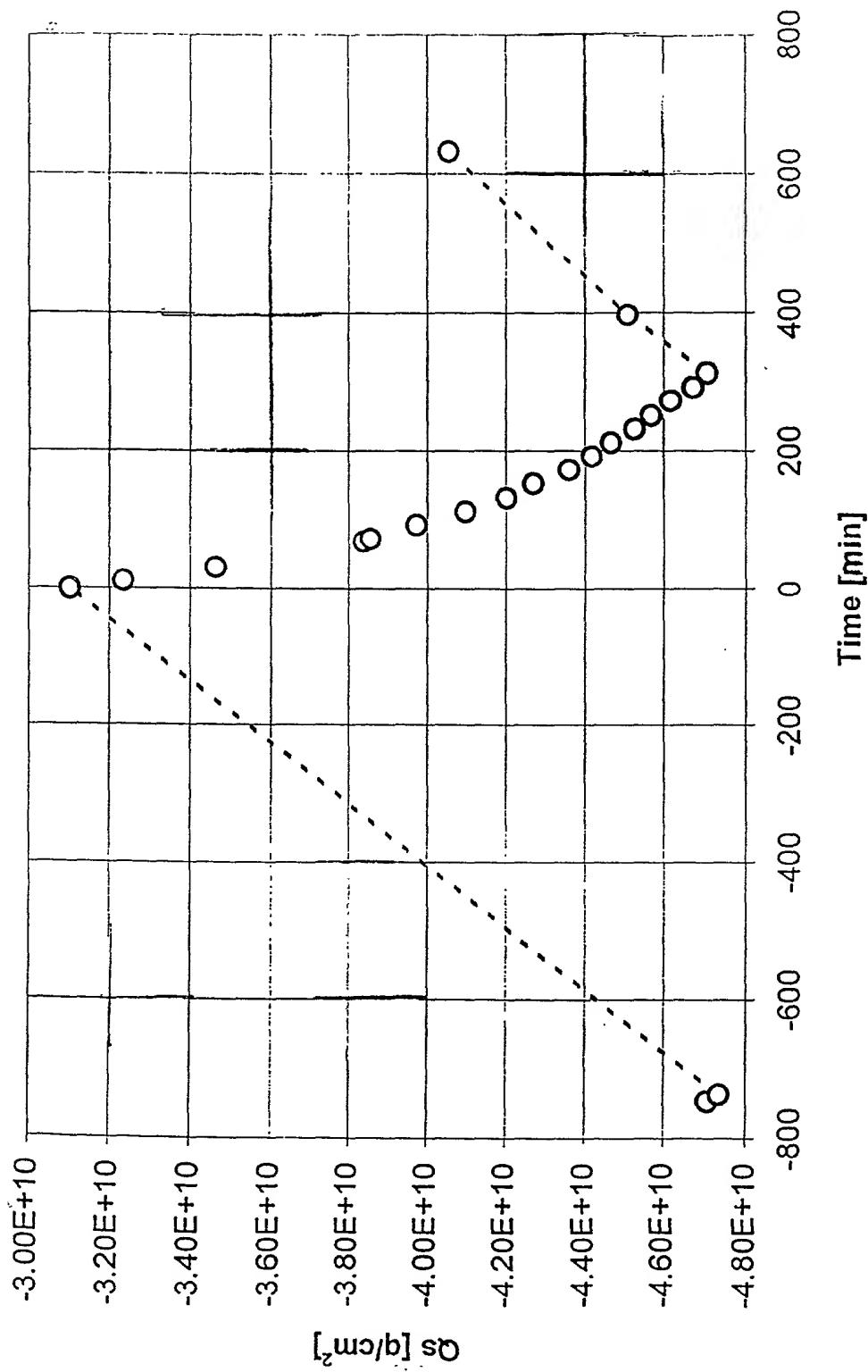


Figure 2

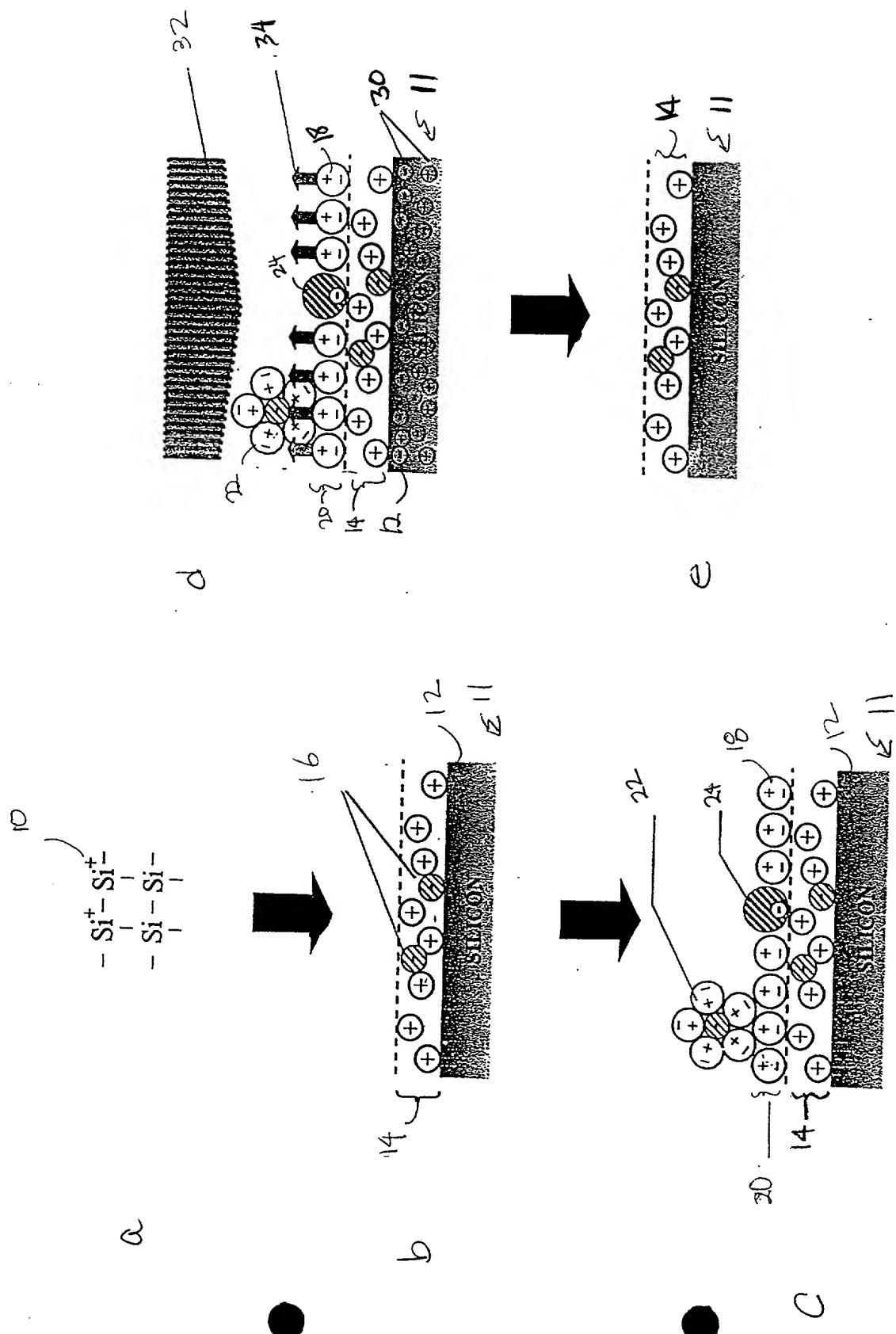
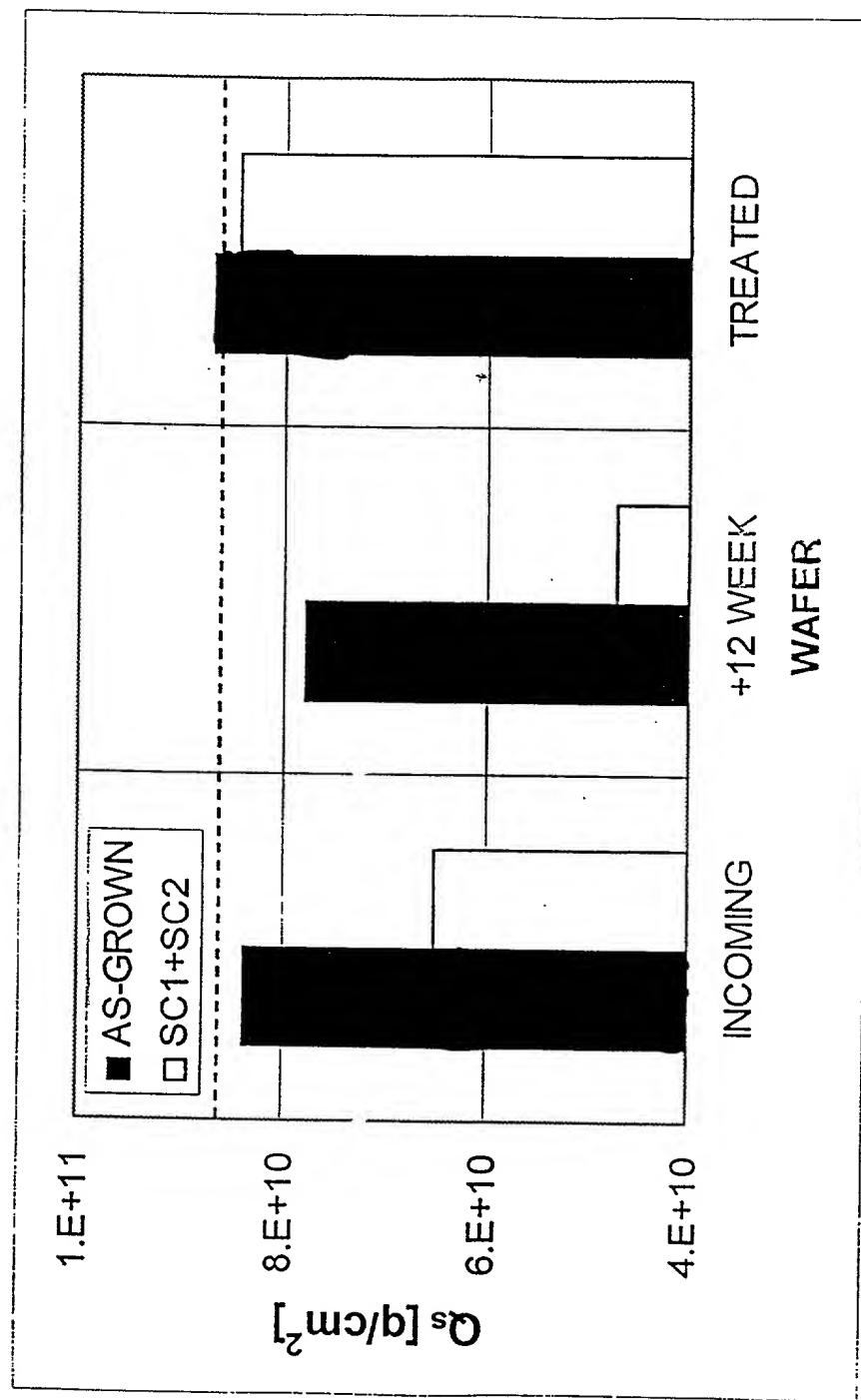


Figure 3

Figure 4



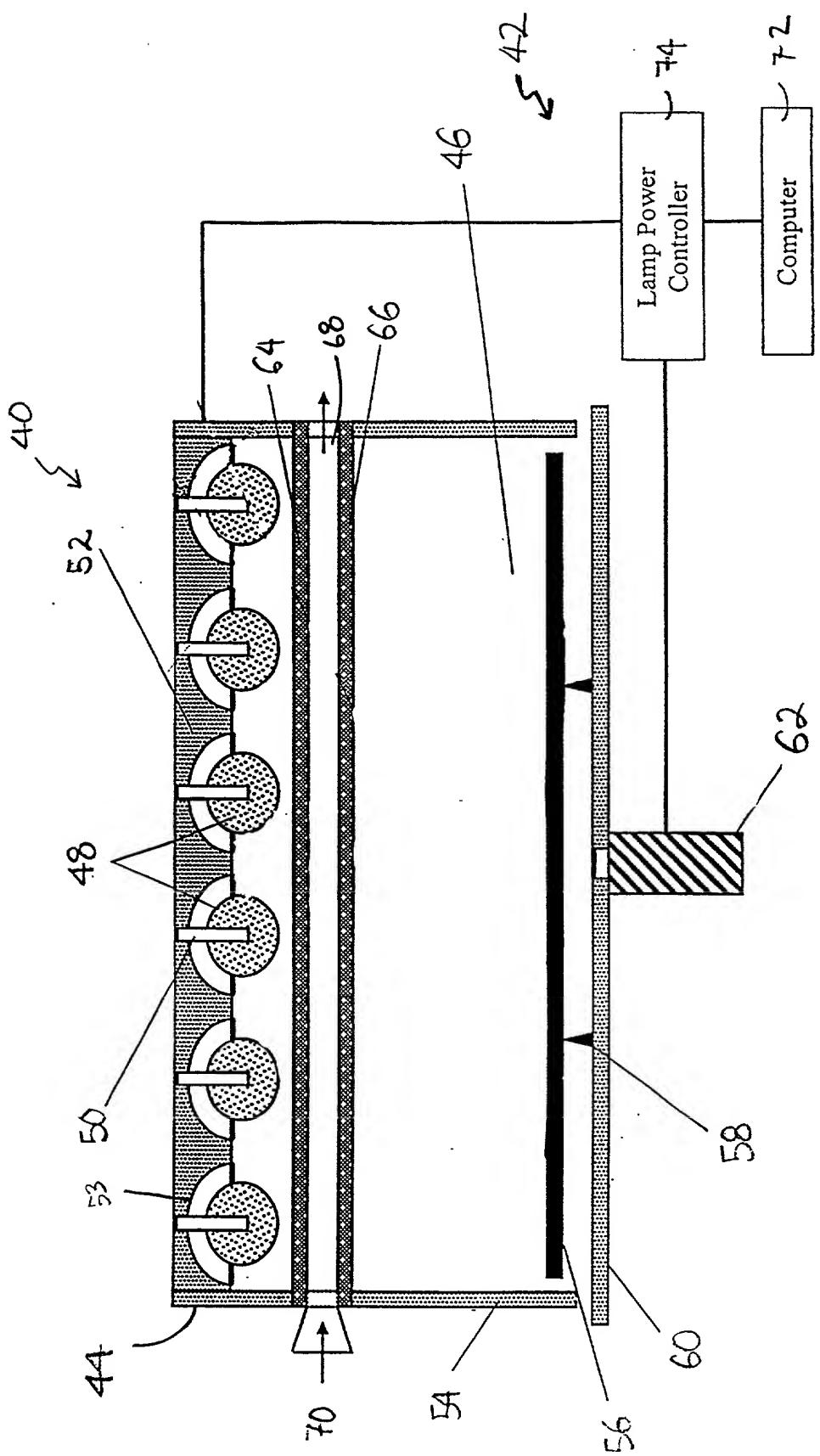
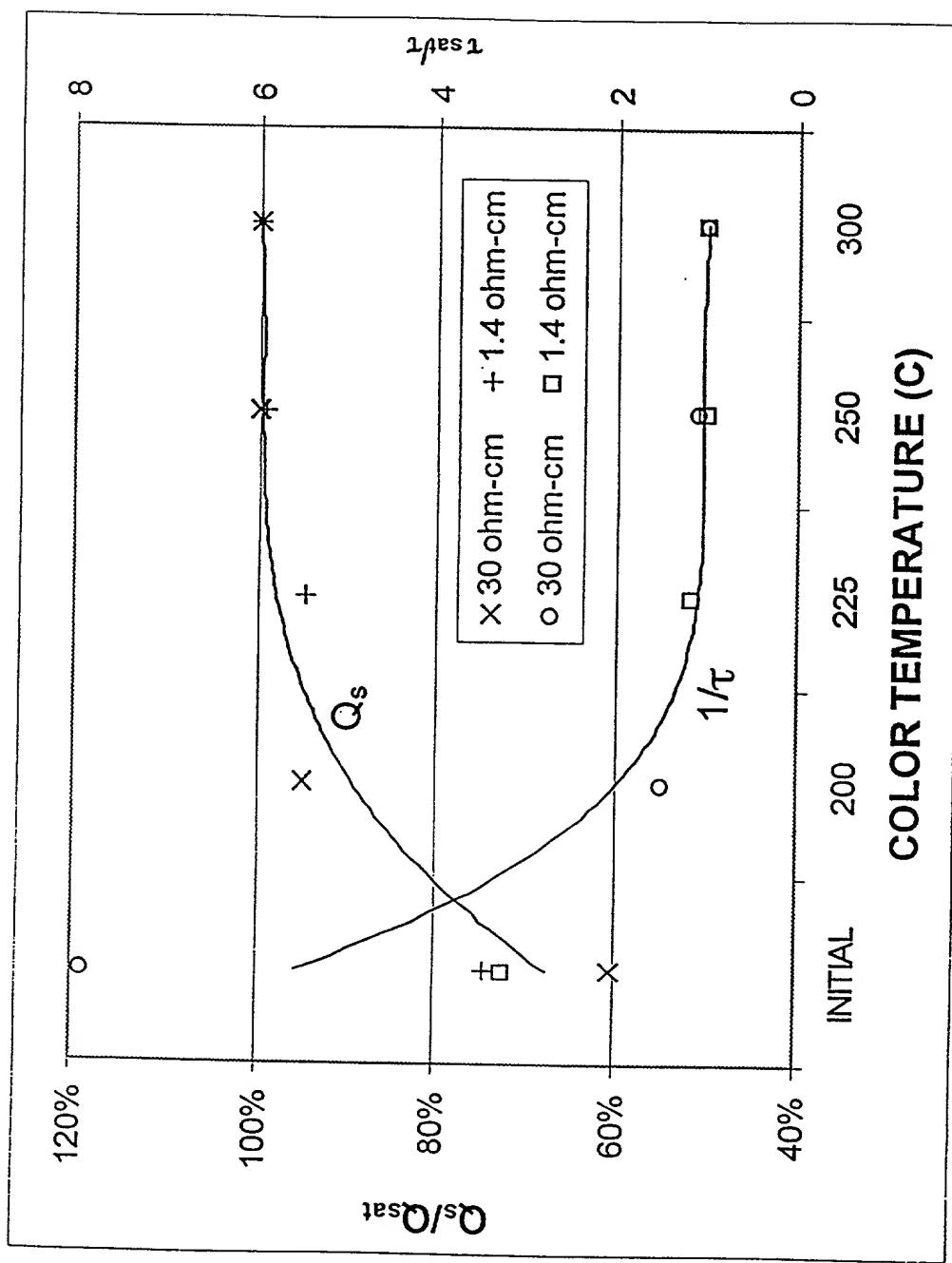


Figure 5

Figure 6



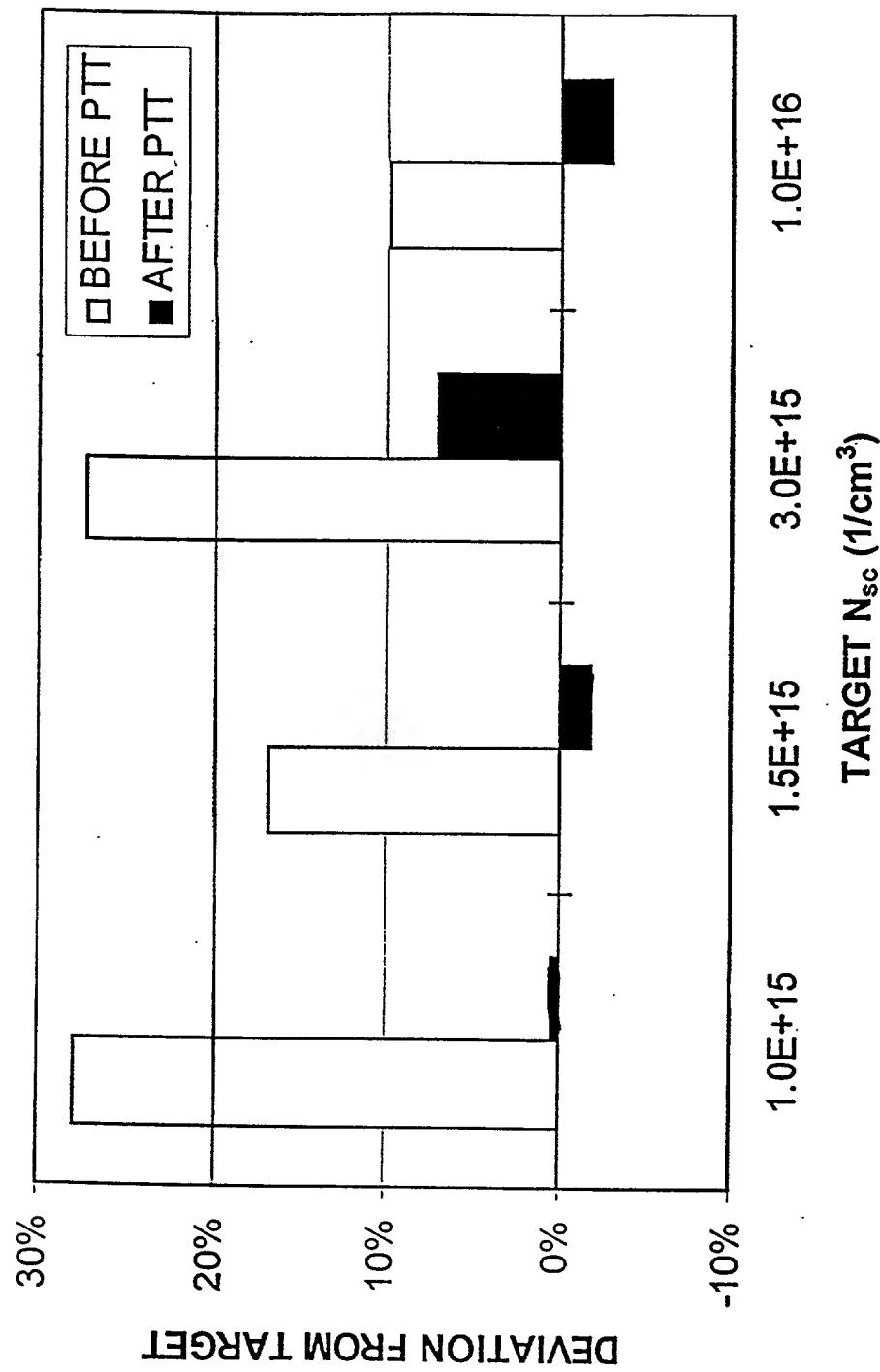


Figure 7

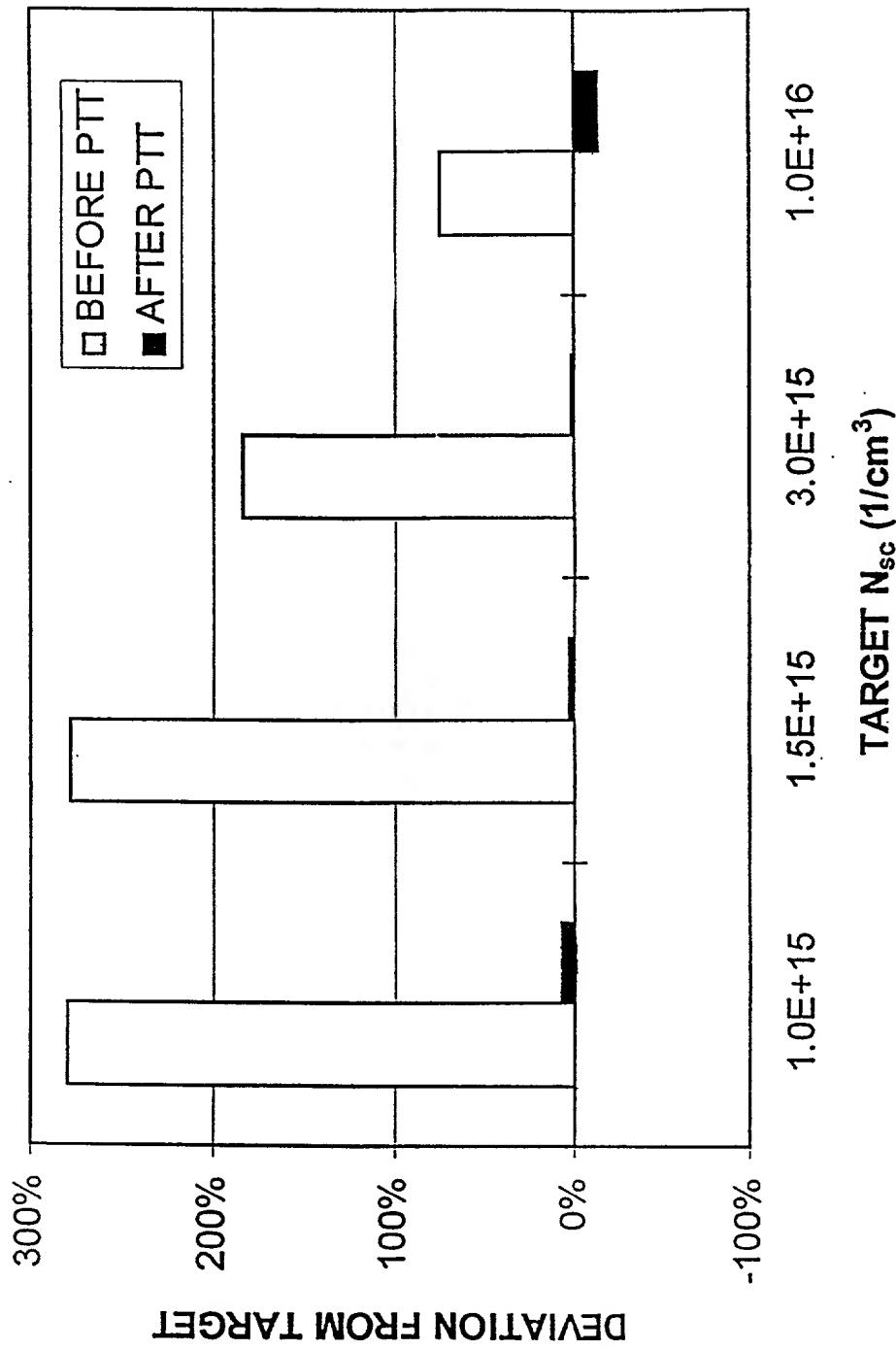


Figure 8